

2. A substantially purified, naturally-occurring polypeptide having at least 90% amino acid identity to SEQ ID NO:1.

12. A composition comprising the protein of claim 1 and a suitable pharmaceutical carrier.

13. A purified antibody which specifically binds to the polypeptide of claim 1.

14. A purified agonist of the polypeptide of claim 1.

15. A purified antagonist of the polypeptide of claim 1.

16. A method for treating cancer comprising administering to a subject in need of such treatment an effective amount of the pharmaceutical composition of claim 12.

17. A method for treating a neuronal disorder comprising administering to a subject in need of such treatment an effective amount of the antagonist of claim 15.

18. A method for treating an immunological disorder comprising administering to a subject in need of such treatment an effective amount of the antagonist of claim 15.

21. A purified polypeptide comprising an immunogenic fragment of the amino acid sequence of SEQ ID NO:1.

23. An isolated polynucleotide encoding a polypeptide of claim 21.

24. An isolated polynucleotide encoding a polypeptide of claim 22.

25. An isolated polynucleotide of claim 24, having a sequence of SEQ ID NO:1.

26. A recombinant polynucleotide comprising a promoter sequence operably linked to a polynucleotide of claim 23.

27. A cell transformed with a recombinant polynucleotide of claim 26.

28. A method for producing a polypeptide of claim 21, the method comprising:

a) culturing a cell under conditions suitable for expression of the polypeptide, wherein said cell is transformed with a recombinant polynucleotide, and said recombinant polynucleotide comprises a promoter sequence operably linked to a polynucleotide encoding the polypeptide of claim 21, and

b) recovering the polypeptide so expressed.

29. A method of claim 28, wherein the polypeptide has the sequence of SEQ ID NO:1.

30. An isolated antibody which specifically binds to a polypeptide of claim 21.

31. An isolated polynucleotide comprising a sequence selected from the group consisting of:

- a) a polynucleotide sequence of SEQ ID NO:2,
- b) a naturally-occurring polynucleotide sequence having at least 90% sequence identity to the sequence of SEQ ID NO:2,
- c) a polynucleotide sequence complementary to a),
- d) a polynucleotide sequence complementary to b), and
- e) a ribonucleotide equivalent of a)-d).

32. An isolated polynucleotide comprising at least 60 contiguous nucleic acids of claim 31.

33. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 31, the method comprising:

a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and

b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

34. A method of claim 33, wherein the probe comprises at least 60 contiguous nucleotides.

35. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 31, the method comprising:

a) amplifying said target polynucleotide or fragment thereof using polymerase chain reaction amplification, and

b) detecting the presence or absence of said amplified target polynucleotide or fragment thereof, and, optionally, if present, the amount thereof.

40. A method for screening a compound for effectiveness in altering expression of a target polynucleotide, wherein said target polynucleotide comprises a sequence of claim 24, the method comprising:

a) exposing a sample comprising the target polynucleotide to a compound, and

b) detecting altered expression of the target polynucleotide.

41. A method for identifying mature osteoblasts in a mixed tissue sample comprising:

a) raising antibodies that bind specifically to the protein of claim 1,

b) contacting said antibodies with a mixed tissue sample containing mature osteoblasts wherein said mature osteoblasts express the protein of claim 1, and

c) detecting the binding of said antibodies to said mature osteoblasts, thereby identifying mature osteoblasts in a mixed tissue sample. *